

REVISION SHEET

<u>Question No.</u>	<u>Revision</u>
2	Reorganization of response; quantification of flavoring amounts
3	substitution of sugar as an example rather than sorbitol
4	"decades" change to "many years"
5	abbreviation and reorganization of response
8	deletion of short "no" answer; deletion of first sentence of background
9	rephrasing
10	deletion of short "no" answer; "ultra" added, low nicotine deleted, to description of cigarettes in last sentence
11	deletion of "any number of" language in first sentence of second paragraph
14	reorganization
15	reorganization
18	change in first sentence
19	reorganization
20	second sentence moved to beginning of paragraph
22	last sentence deleted
26	first sentence added; "temperature increase" deleted from third sentence
28	"smoothness" substituted for "texture"
32	last sentence deleted; reorganization of first sentence
33	last sentence deleted; new sentence added at end
36, 37	"rule" substituted for "guidelines"
38	"specific" deleted
41	"heated" substituted for "burn" in last sentence

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February 14, 1989

QUESTIONS AND ANSWERS CONCERNING CIGARETTE INGREDIENTS

1. The U.S. Department of Health and Human Services has just released a list of ingredients used by cigarette manufacturers in that country in the production of their cigarettes. Are those ingredients also used in cigarettes sold in this country?

ANSWER: Yes.

2. Why are non-tobacco ingredients used in cigarettes?

ANSWER: Non-tobacco ingredients used in cigarettes fall into four categories. Processing aids are used in initial stages of cigarette manufacture and remain in finished cigarettes in extremely small amounts. Casing materials and humectants help to smooth the taste of cigarettes and keep the tobacco in cigarettes moist. Flavorings are used in extremely small amounts to give individual brands of cigarettes their distinctive flavor and aroma. Flavors differentiate our products from those of our competitors.

3. What are some examples of flavorings, humectants, and processing aids?

ANSWER: Menthol is probably the best known ingredient added to tobacco and cigarettes as a flavoring. A variety of humectants and casing materials are used in the manufacture of cigarettes. Sugar is a casing material which is used to smooth smoke and is also used in candies. Carbon dioxide is a processing aid used in the expansion of tobacco that is also used in a variety of carbonated beverages and food products.

4. How long have non-tobacco ingredients been used in cigarettes?

ANSWER: Ingredients have always been used in cigarettes. Most of the principal processing aids, casing materials, and humectants, for example, have not changed for many years. Many of the major flavoring agents have also been in use for an extensive period. Other flavors have been added or eliminated from time to time as new products have been produced or existing products have been reformulated in response to changing consumer preferences.

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5. Do all cigarettes contain non-tobacco ingredients?

ANSWER: Non-tobacco ingredients (e.g., casings, flavors, and humectants) are used in the manufacture of virtually all blended cigarettes.

6. Why are so many ingredients used?

ANSWER: Approximately 20 ingredients comprise over 99% of the total amount, by weight, of ingredients used by the cigarette industry and in our cigarettes. Other ingredients are used in much smaller amounts. Most of the ingredients on the list referred to in the DHHS Report to Congress are used in extremely small quantities.

7. Are all the ingredients contained in the United States list used in your cigarettes?

ANSWER: No.

BACKGROUND: The United States list represents a composite list of the ingredients used by every manufacturer, importer, or processor of cigarettes in the United States. A smaller number of ingredients are used by any one manufacturer or are contained in any particular brand of cigarettes.

8. Are ingredients used in large amounts?

ANSWER: The residual amounts of ingredients used as processing aids in a finished cigarette will be very small. A small number of casing materials, moisturizers and major flavors account for the great bulk of ingredients actually in a cigarette. Flavors normally constitute less than 1/10 of 1% by weight of the final product.

9. Are these non-tobacco ingredients natural or chemical products?

ANSWER: Most are natural. Several are synthetics that are closely related to natural products.

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10. Have cigarette manufacturers started using more and more ingredients to compensate for the reduction of tar and nicotine in cigarettes?

ANSWER: Most of the major ingredients used today have been used in cigarette manufacture for decades. Many commentators erroneously believe that an increased number and/or amount of flavorings are necessary to improve the taste of "low-tar" cigarettes. Although a greater number of flavoring ingredients and processing aids are available to cigarette manufacturers today, there has been little or no increase in use of these ingredients--as measured by total weight of a finished cigarette--since the increase in popularity of ultra low tar cigarettes.

11. Has the identity of cigarette ingredients been provided to the public by your company before?

ANSWER: No.

BACKGROUND: Because they contribute to the taste and appeal of individual brands, the identities of specific ingredients in cigarettes are closely guarded trade secrets. Disclosure of the ingredients used in cigarette manufacture could reveal product formulas that have required years of research to develop. Although a wide range of ingredients used in tobacco products have been listed by governmental agencies and mentioned in other publications, specific recipes have the highest commercial value and are closely guarded trade secrets.

The formulas of consumer products are not treated as public information. These formulas often have great competitive value and require substantial time and expense to develop. The law therefore allows them to be treated as trade secrets. The flavorings used in hundreds of foods, confections, beverages, and fragrances, for example, are generally treated as trade secrets.

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12. If a smoker had reason to believe that he or she were suffering from allergic reactions to certain ingredients which may be present in his or her cigarette, would it be possible for this person to determine whether a particular ingredient is present in his or her particular brand of cigarette?

ANSWER: In these circumstances, the company would cooperate with a physician, on a private and confidential basis, in an attempt to resolve such a problem.

13. Are there any substances currently added to cigarettes sold only in this, or other markets, which are not used in cigarettes your company sells in the United States?

ANSWER: No substance on the DHHS list is prohibited for use in cigarettes by the regulatory ordinances of any other country where Philip Morris products are sold. All ingredients used in Philip Morris cigarettes, regardless of where they are sold, are contained on the list Philip Morris submitted to the United States Department of Health and Human Services. No substance added to Philip Morris cigarettes, regardless of where they are sold, is contained on any government's list of ingredients that cannot be used in the manufacture of cigarettes.

BACKGROUND: Ingredients and flavorings obtained from Philip Morris in Richmond, Virginia, regardless of where they are used in finished cigarettes throughout the world, are contained on the DHHS list. In any country where Philip Morris sells its products and obtains casing materials or flavorings locally, it complies with all laws of that country. In any event, no ingredient is used by Philip Morris that is not listed on the Department of Health and Human Services ingredient list.

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14. Are ingredients added to filters, and if so, what ingredients are added and what tests have been done to evaluate their safety?

ANSWER: By their very nature, the vast majority of filters contain non-tobacco ingredients. The company believes that the use of ingredients in filters is not harmful to smokers.

15. Are the ingredients used in cigarettes safe?

ANSWER: The company believes that the addition to cigarettes of the ingredients on the list referred to in the DHHS Report to Congress is not harmful to smokers.

16. What evidence is there that the ingredients are safe?

ANSWER: Most of the ingredients are approved for use in food. Many are included in other lists of approved, food, confection, and beverage ingredients. The inclusion of ingredients on these lists generally reflects a careful review of available data by scientists. Many of the ingredients referred to in the DHHS Report are also included on approved lists of tobacco additives in Great Britain and Germany.

The company has likewise reviewed available scientific evidence about the ingredients on the list. This includes test data found in the scientific literature, as well as the results of unpublished research, on many of the ingredients. The safety of the ingredients used in foods and in other articles for human consumption is supported by the available data.

17. Are there are any substances which have historically been used as additives in cigarettes which are now regarded as hazardous?

ANSWER: The company does not believe that ingredients, formerly, or currently, used in cigarettes are harmful to smokers.

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18. Is an ingredient safe for use just because it has been used for a long period of time?

ANSWER: The safety of ingredients can be enhanced by longstanding use. Most of the ingredients used in large quantities in the production of cigarettes, however, are either foods, or are approved for use in foods or in the manufacture of foods.

19. What effect do ingredients have on non-smokers exposed to the cigarette smoke?

ANSWER: As stated earlier, the company believes the addition to cigarettes of the ingredients on the list is not harmful to smokers. The company likewise believes that the addition of ingredients to cigarettes is not harmful to non-smokers who may be exposed to cigarette smoke.

20. Have each of the ingredients been tested to ensure that they are safe?

ANSWER: Since most of the ingredients on the various governmental lists are approved for use in foods, testing to determine their toxicity has been conducted. The ingredients used in the largest quantities and selected components of flavor mixtures have been tested. Additional testing on many ingredients and mixtures of ingredients which attempts to address the conditions encountered during cigarette smoking has been conducted.

21. What do the results of these tests show?

ANSWER: The tests have not demonstrated that the use of the ingredients referred to in the DHHS Report is harmful to smokers.

22. What kinds of tests have been done on ingredients?

ANSWER: We have utilized state of the art methodologies for evaluating cigarette ingredients. Depending on the circumstances, the research conducted includes inhalation studies, acute and chronic toxicity studies, and various in vitro studies.

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23. What research has been done to address the issue of potential dangers posed by the burning of the substances as they are used in cigarettes?

ANSWER: Most of the flavoring materials used in cigarettes are sufficiently volatile that, instead of burning, they are transferred intact into cigarette smoke. Flavoring agents are often selected for their low boiling points, which assures that their aroma properties are imparted intact to cigarette smoke.

Pyrolysis of casing materials and humectants does occur. The chemical composition of cigarette smoke has been carefully and extensively studied. The Company continues to review scientific literature on all ingredients and pyrolysis products. If the literature suggests appropriate testing of certain ingredients, the Company undertakes appropriate testing procedures.

24. Are you aware of any adverse health data generated by the company, or available in the published literature on this subject?

ANSWER: Based on its review of the available data and information, the company does not believe that the addition of ingredients to cigarettes is harmful to smokers.

25. Is more testing of ingredients underway?

ANSWER: The company regularly conducts tests where it believes such tests are warranted.

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26. Of what relevance is approval of cigarette ingredients in foods since the ingredients are generally not burned when used in that manner?

ANSWER: Many ingredients are transferred to smoke unchanged. The inclusion of the ingredients on lists of substances approved for food use by various organizations indicates that data have been reviewed by scientists who have concluded that the ingredient is suitable for human consumption. Processing and preparation of virtually all foods does involve a significant amount of heat. While it is appropriate to consider other types of data as well, approval of ingredients for use in food and other consumer products should receive considerable weight in evaluating exposure to the same substances.

27. Is the Department of Health and Human Services Report based on more information, or sufficiently more detailed than the efforts undertaken in Great Britain and Germany?

ANSWER: At this point, it is difficult to say. The U.S. Department of Health and Human Services refused to accept repeated offers of assistance from tobacco industry scientists.

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28. What are the "major use" ingredients, why are they used, and what is known about their safety?

ANSWER: Comments on the identity of any particular ingredient would be inappropriate. Approximately twenty ingredients, however, comprise 99% of the total amount, by weight of ingredients used in our cigarettes. These "major-use" ingredients have been used in cigarettes for decades and are also used in foods, confections and beverages. Most of these ingredients serve as casing materials, humectants, or processing aids. Processing aids remain in the final cigarettes only in extremely small amounts. Casing materials assist in producing a cigarette with a satisfactory taste and smoothness, while humectants serve to retain the moisture in cigarettes. Certain ingredients used as flavors in the more popular brands of cigarettes may also be used in larger quantities on an annual basis.

A variety of tests have been done to evaluate the safety of the major use ingredients. These include tests by tobacco companies, as well as other work reflected in the published literature. Based on the available information, the company does not believe that the addition to cigarettes of the ingredients referred to in the DHHS Report is harmful to smokers.

29. How many of the ingredients on the list are known carcinogens?

ANSWER: None.

BACKGROUND: None of the substances on the lists submitted to the United States Department of Health and Human Services are considered potential human carcinogens by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC) or any other recognized organizations which evaluate the carcinogenic potential of substances.

30. Has your company ever used cloves, eugenol, or coumarin in its cigarettes?

ANSWER: Specific ingredients are closely guarded trade secrets. Therefore, the company will not comment on whether any substances are being, or have been, used.

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31. The report that has been released in the United States discusses ingredients such as cloves, eugenol and coumarin.

Does your company use these compounds in its cigarettes?

ANSWER: The report that has been released in the United States was prepared by the United States Department of Health and Human Services based on its review of a list of cigarette ingredients containing submissions from all manufacturers and importers of cigarettes as well as the six major United States manufacturers. According to the spokesman for the major U.S. manufacturers, none of the specified ingredients were contained on the list submitted on behalf of the six major United States tobacco companies. None of the cigarettes manufactured for Philip Morris by their international affiliates, or under a Philip Morris registered trademark, utilize ingredients not contained on the list of ingredients Philip Morris submitted to the United States Department of Health and Human Services.

32. Are any of these ingredients toxic?

ANSWER: The company believes that the addition to cigarettes of the ingredients on any of the recognized lists (*i.e.*, Hunter List in Great Britain, German Regulations, or United States Department of Health and Human Services List) is not harmful to smokers. Many ingredients used in food, confections, and beverages may be toxic if consumed or used in large amounts.

33. What ingredients or flavors are used in Marlboro cigarettes?

ANSWER: As previously stated, all of the flavors listed in the United States, West German, or British ingredients lists are not used in any one particular brand. Flavors used in any brand are proprietary information and closely guarded trade secrets.

34. Why has the United States government solicited and published the ingredients list at this time?

ANSWER: Since April of 1986, cigarette manufacturers, importers, and processors have been required by Section 7 of the Federal Cigarette Labelling and Advertising Act to provide the United States Department of Health and Human Services with a list of ingredients which are added to tobacco in the manufacture of cigarettes. The Department of Health and Human Services has provided a report to the American Congress based on its review of the ingredients lists that have been submitted.

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35. Does this list include pesticides or insecticides?

ANSWER: The use of pesticides on tobacco is governed by a variety of regulations throughout the world. As with other agricultural raw materials, compliance with regulations is strictly supervised. The Company purchases and uses tobacco grown in accordance with these regulations.

36. What is the Hunter Committee?

ANSWER: The Hunter Committee (now known as the Froggatt Committee) was appointed in the United Kingdom to study and report on a number of aspects of smoking and health. In its December 1978 report, the committee published an approved list of cigarette additives. The committee has also established comprehensive testing procedures and rules for adding substances to the list. Pursuant to these rules a number of additions have been made.

37. What is the West German List?

ANSWER: West Germany has also developed rules for the approval of cigarette additives. These rules have resulted in the inclusion of a number of additives that had not been considered by the Hunter Committee.

38. Are there any countries in the world where tobacco additives must be listed on the packages of various cigarette brands?

ANSWER: There is no country in the world where ingredients must be listed on cigarette packages.

39. Will your company provide our government with a list of ingredients it uses in the manufacture of its products?

ANSWER: Philip Morris is prepared to provide an annual certificate that any ingredients used in its products conform to internationally recognized standards.

BACKGROUND: All ingredients used in Philip Morris cigarettes are contained on the Hunter list, the West German list or the United States Department of Health and Human Services list. Philip Morris does not use any ingredients in its products that have been specifically prohibited from use in tobacco products by any governmental or regulatory body.

40. A review of patent literature reveals that a variety of non-tobacco ingredients and additives are included in cigarettes and other smoking products and that a variety of manufacturing processes have been developed to produce cigarettes. Are all of the ingredients contained in this patent literature approved for use in cigarettes by the various governmental bodies?

ANSWER: Philip Morris does not use any ingredient in its products that has been specifically prohibited from use in cigarettes by any governmental or regulatory body.

BACKGROUND: "Paper patents" are commonly filed in order to protect an inventor's rights regardless of whether the patented product or process is actually used by a manufacturer. The possible presence in the patent literature of ingredients that do not appear on the DHHS list, West German list or Hunter lists does not indicate that such ingredients are used in our, or any, products.

All ingredients used in Philip Morris cigarettes are contained either on the Hunter list, the West German list or the United States Department of Health and Human Services list.

41. Does the use of non-tobacco ingredients in cigarettes result in the presence of thousands of chemicals in cigarette smoke?

ANSWER: The addition of flavorings to cigarettes is designed to impart desirable aroma qualities to cigarette smoke and to smooth the smoke. Fundamental principles of flavor chemistry require the use of minimal amounts of flavorings necessary to impart the desired effect to smoke. When heated, tobacco, like many other foods or natural products, produces many chemical compounds.

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42. The report to the United States Congress on cigarette ingredients revealed that some products contain substances such as mace, shellac, and turpentine. What are these products and why are they used in cigarettes?

ANSWER: Mace is a spice contained naturally in nutmeg and is widely used in the food industry. Shellac is found naturally in trees in India, is used in food and pharmaceutical products, and in the preparation of various confections and medicines. Turpentine, is a gum that is found on certain trees. Turpentine gum is used in baked goods, and steamed, distilled turpentine has been used in candy, baked goods and chewing gum.

43. Are mace, shellac and turpentine used in your cigarettes?

ANSWER: Specific ingredients are important trade secrets. Therefore, the company will not comment on whether these substances are being, or have been, used.